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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/921,355	08/02/2001	Shaotian Wang	88-1008B	6027

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EXAMINER

PASTERCZYK, JAMES W

ART UNIT	PAPER NUMBER
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1755

DATE MAILED: 08/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/921,355

Applicant(s)
Wang

Examiner
J. Pasterczyk

Art Unit
1755



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Aug 2, 2001
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 36-57 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 36-57 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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1. The abstract of the disclosure is objected to because it lacks mention of the presence of an olefin when the precatalyst is contacted with the alkylating agent in the polymerization reactor. Correction is required. See MPEP § 608.01(b).

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 36-57 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-31 of U.S. Patent No. 6,291,386. Although the conflicting claims are not identical, they are not patentably distinct from each other because addition of an olefin to a polymerization reactor containing a polymerization catalyst is

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conventional, both from the standpoint of making a polyolefin as well as making a prepolymerized supported catalyst.

4. Claims 36-57 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 36, l. 9, change the first "or" to --and--; in l. 10 insert --M-- after "metal" to make it clear which metal is being referred to. In (b), first line, it is not clear whether "polymerization system" means something other than any ordinary flask into which propylene may be added; this clause also seems to conflict with the preamble "in-situ" recitation, which suggests that all reactions used to make the catalyst as well as the polymerization are performed in the same vessel.

It is not clear how claim 37 further limits claim 36 since the process of claim 36 is already performed in a polymerization system in the presence of an olefin; these appear to be sufficient to satisfy "under polymerization conditions".

In claim 45, l. 8, change the first "or" to --and--; in l. 9 insert --M-- after "metal" for clarity. In (c), first line, it is not clear whether "polymerization system" means something other than any ordinary flask into which propylene may be added; this clause also seems to conflict with the preamble "in-situ" recitation, which suggests that all reactions used to make the catalyst as well as the polymerization are performed in the same vessel.

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It is not clear how claim 46 further limits claim 45 since the process of claim 36 is already performed in a polymerization system in the presence of an olefin; these appear to be sufficient to satisfy "under polymerization conditions".

In claim 49, l. 2, change "functionality" to --functional groups-- since the latter is clearly a noun.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 36-41 and 43-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over any of Hlatky et al., USP 5,153,157 (hereafter referred to as Hlatky), Ewen et al., USP 5,519,100 (hereafter referred to as Ewen) or Hasegawa et al., USP 5,576,259 (hereafter referred to as Hasegawa) in view of either of Turner, USP 4,752,597 (hereafter referred to as Turner) or Tomotsu et al., USP 5,786,433 (hereafter referred to as Tomotsu).

Hlatky discloses a process essentially reading on that of the present invention (example 4). Ewen has a similar disclosure with the metallocene and boron-containing ionizing agent being mixed together, then an aluminum-containing alkylating agent and an olefin being added (example IV). Hasegawa has a similar disclosure but with the reagents added in a different order (example 1).

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None of Hlatky, Ewen or Hasegawa discloses that the metallocene used may have a halide, alkoxide, or amido ligand bound to it along with the Cp ligands.

However, both Turner (examples 1 and 2), and Tomotsu (col. 3, l. 44 to col. 4, l. 15) teach that otherwise identical metallocenes differing in whether the ancillary ligands are halides or alkyls are art-recognizedly interchangeable, Tomotsu in the context of using ionizing cocatalysts (col. 9, l. 33 to col. 10, l. 37), Turner in the context of a direct comparison between the methyl analog and the chloride analog (examples 2 vs. 1) with the dimethyl analog having a greater catalyst productivity, suggesting that alkylating a halide or other ligand on a metallocene is a desirable step.

It would have been obvious to one of ordinary skill in the art to apply the teachings of either of Turner or Tomotsu to the disclosures of any of Hlatky, Ewen or Hasegawa to provide a highly-useful method of making a catalyst with the expected benefit of the catalyst having greater productivity.

7. Claim 42 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hlatky, Ewen, Hasegawa, Turner and Tomotsu as cited above in view of Etherton et al., USP 5,539,124 (hereafter referred to as Etherton).

The disclosures of the primary references have been discussed above.

None of the primary references discloses that the multihapto ligand on the metallocene is anything other than a hydrocarbon.

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However, Etherton teaches that in metallocene compounds used in olefin polymerization catalysts, nitrogen heterocycles may be used as ligands on the transition metal compound (abstract; col. 3).

It would have been obvious to one of ordinary skill in the art to apply the teaching of Etherton to the disclosures of the primary references to provide a highly-useful method of making an olefin polymerization catalyst with the expected benefit of the catalyst providing high activity with narrow molecular weight distribution.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to J. Pasterczyk whose telephone number is (703) 308-3497. The examiner can normally be reached on M-F from 9 to 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Bell, can be reached on (703) 308-3823. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9310 for normal faxes, 872-9311 for after final faxes.

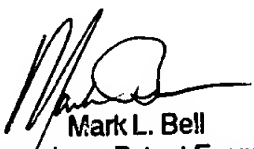
Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



J. Pasterczyk

AU 1755

8/8/03



Mark L. Bell
Supervisory Patent Examiner
Technology Center 1700